UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,164	12/21/2001	Jian-Guo Chen	Arulambalam 2-1-1-15	6810

7590   03/01/2006
John L. DeAngelis, Jr. Esq.
Beusse Brownlee Bowdoin & Wolter, P.A
390 N. Orange Ave
Suite 2500
Orlando, FL 32801

EXAMINER
TO, JENNIFER N

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/037,164	CHEN ET AL.
	Examiner	Art Unit	
	Jennifer N. To	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _13 December 2005_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-15 are pended for examination.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

4.   The language of claim 15 raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a machine which would result in a practical application producing a useful, concrete, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. For example, the step of <u>if a first scheduling scheme is selected</u>, then <u>processing data received</u> which is an abstract idea that does not produce any tangible result.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter in which the applicant regards as his invention.

6.   Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

       a.   The claim language in the following claims is not clearly understood:

             i.   as per claim 1, lines 6-8, it is uncertain what is the relationship

between a first circuit model and a second circuit model (i.e. a second

circuit module coupled to the first circuit module). Lines 9-11, it is not

clearly understood what is meant by "wherein responsive t the first

scheme enabled the shared network resource services all network users

by <u>successively processing a limited amount of data</u> from each network

user" (i.e. a limited amount of data is a minimum amount of data that the

network resource services all network users, or it is a fixed amount of data

that the network resource need to service all network users).

             ii.   as per claim 9, it is having the same deficiency as claim 1. An

appropriate correction is required.

             iii.   as per claim 11, lines 2-3, it is uncertain what is the relationship

between a first and a second queue with queue in claim 9 (i.e. the same or

different).

             iv.   as per claim 15, line 5, it is uncertain what "comprising" (i.e. shared

network resource, or a method for implementing a user-selectable

scheme).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bhatti et al. (hereafter Bhatti), "Web Server Support For Tiered Services", IEEE,

October 1999, pages 64-71.

9.   As per claim 1, Bhatti teaches the invention substantially as claimed including an

integrated circuit structure for controlling data processing by a shared network resource,

wherein data is supplied from a plurality of network users, each network user having a

data processing priority (figs. 1, 6-7; abstract; pages 66, architecture for Server-Based

QoS section), said integrated circuit structure comprising:

    a first circuit module capable of implementing a plurality of scheduling schemes

including a first and second scheme (fig. 6; page 67, connection manager section; page

68, request scheduling section); and

    a second circuit module for selecting an enabled scheduling scheme from among

the plurality of scheduling schemes, wherein the net work resource process data

according to the enabled scheduling scheme, wherein the data processing priority

determines the order in the shared network resource processes data, and wherein

responsive to the second scheme enabled all data from a higher priority network user is

processed before processing data from lower priority network users (figs. 6-7; page 67, connection manager section, request classification section; page 68, request scheduling section).

10.   With respected to the limitation of wherein responsive to the first scheme enabled the shared network resource services all network users by successively processing a limited amount of data from each network user, Bhatti disclosed that in response to the selecting order of request, the workers are process the selected request based on the scheduling policy, wherein one of the scheduling policy is a fixed capacity schedules (each class of network of users have a capacity/limited amount of data), and workers processed the request based on the capacity of the class (page 68, request scheduling section).

11.   It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Bhatti teaching of processing the selected request based on the fixed capacity of the class of the request (data request by network user) is functional equivalent as processing a limited amount of data from each network user because by processed the request (data request by network user) based on the capacity of the class of which the request is in, meaning that all of the requests in the class will be processed at least a minimum amount of data as long as the total of the data of all the requests is not reaching the capacity. Therefore, one would be motivated to apply this system for supporting distinct performance levels for different classes of users and maintaining predictable performance even when the server is subjected to a

client request rate that is several times greater than the server's maximum processing

rate (Bhatti, abstract, lines 9-12).

12.   As per claim 2, Bhatti teaches that wherein each one of the plurality of network

user within a service class is assigned to a service class, and wherein the second circuit

module controls the network resource to service data from each service class in

accordance with the enabled scheduling schemes (page 67, request classification

section; page 68, admission control section, resource scheduling section).

13.   As per claim 3, Bhatti teaches that wherein each user with a service class is

assigned a priority within the service class, and wherein the second circuit module

controls the network resource to service data from each user in accordance with the

priority of the user with the service class (page 66, architecture for server-based QoS;

page 67, request classification section; page 68, admission control section).

14.   As per claim 4, Bhatti teaches that wherein the network resource further

comprises at least one data queue for each one of the plurality of network users for

storing data received from the user, and wherein the network resource services data

from each user by reading data from the at least one data queue of the user in

accordance with the enabled scheduling schemes (fig. 7; page 68, admission control

section).

15.   As per claim 5, Bhatti teaches two data queues for each user, wherein a first data

queue is a pending queue wherein incoming data packets are stored, and wherein a

second queue is an active queue from which data is serviced by the network resource

(fig. 7; page 68, admission control section).

16.   As per claim 6, Bhatti teaches that wherein the data is in the form of data packets

(fig. 7; page 68, admission control section).

17.   As per claim 7, Bhatti teaches that wherein the second circuit module is manually

operable for selecting the enabled scheduling schemes (page 68, resource scheduling

section).

18.   As per claim 8, Bhatti teaches that wherein the second circuit module is operable

for selecting the enabled scheduling scheme in accordance with a type of data

presented by a plurality of service class (page 68, request scheduling section).

19.   As per claim 9, Bhatti teaches the invention substantially as claimed including an

apparatus for selecting data from a plurality of network users for service by a shared

network resource, wherein the data from each one of the plurality of network users is

assigned to a priority class, and wherein a scheduling scheme for selecting the data for

servicing by the network resource is selectable from among a plurality of scheduling

schemes (figs. 1, 6-7; abstract; pages 66, architecture for Server-Based QoS section),

said apparatus comprising:

a controller for supplying a signal indicating a first or a second enabled

scheduling scheme from among the plurality of scheduling schemes (figs. 6-7; page 67,

connection manager section; page 68, request scheduling section);

a plurality of scheduling blocks each processing data from a respective priority

class and each providing an eligible queue output signal in response to data from the

respective priority class awaiting service (figs. 1, 6-7; page 67, connection manager

section, request classification section; page 68, admission control section); and

a class selector for determining the data to be serviced in response to the

eligible queue output signal from each one of said plurality of scheduling blocks and

further in response to the first or second enabled scheduling scheme, wherein the data

processing priority determines the order in which the shared network resource

processes data, and wherein responsive to the second scheme enabled all data from a

higher priority network user is processed before processing data from lower priority

network users (figs. 6-7; page 66, architecture for server-based QoS; page 67,

connection manager section, request classification section; page 68, request scheduling

section).

20.   With respected to the limitation of wherein responsive to the first scheme enabled

the shared network resource services all network users by successively processing a

limited amount of data from each network user, Bhatti disclosed that in response to the

selecting order of request, the workers are process the selected request based on the scheduling policy, wherein one of the scheduling policy is a fixed capacity schedules (each class of network of users have a capacity/limited amount of data), and workers processed the request based on the capacity of the class (page 68, request scheduling section).

21.   It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Bhatti teaching of processing the selected request based on the fixed capacity of the class of the request (data request by network user) is functional equivalent as processing a limited amount of data from each network user because by processed the request (data request by network user) based on the capacity of the class of which the request is in, meaning that all of the requests in the class will be processed at least a minimum amount of data as long as the total of the data of all the requests is not reaching the capacity. Therefore, one would be motivated to apply this system for supporting distinct performance levels for different classes of users and maintaining predictable performance even when the server is subjected to a client request rate that is several times greater than the server's maximum processing rate (Bhatti, abstract, lines 9-12).

22.   As per claim 10, Bhatti teaches that wherein the apparatus is incorporated in an integrated circuit (fig. 6).

23.   As per claim 11, Bhatti teaches that wherein the data from the plurality of network users of each class is provided on one of a first and a second queue, and wherein the enabled scheduling scheme determines whether said first queue or both said first and second queue are processed by each one of the plurality of scheduling blocks (fig. 7; page 68, admission control section).

24.   As per claim 12, Bhatti teaches that wherein the first queue is an active queue and wherein the second queue is a pending queue, and wherein data is stored in the pending queue while the network resource services the data in the active queue (fig. 7; page 68, admission control section).

25.   As per claims 13-14, they are rejected for the same reason as claim 9 above.

26.   As per claim 15, Bhatti teaches the invention substantially as claimed including:
        determining scheduling scheme (page 68, request scheduling section);
        if a first scheduling scheme is selected, processing data received from the subscribers of the plurality of subscriber classes according to a predetermined priority order for each subscriber class, wherein all data from the plurality of subscribers of a higher priority subscriber class is processed before processing data from subscribers of a lower priority subscriber class (fig. 7; page 66, architecture for server-based QoS section; page 67, request classification section; page 68, request scheduling section, resource scheduling section); and

if a second scheduling scheme is selected, first processing data received from subscribers of the plurality of subscribers class within at least the highest priority subscriber class, then processing data received from subscribers within the remaining subscriber classes according to a round robin scheduling scheme (fig. 7; page 66, architecture for server-based QoS section; page 67, request classification section; page 68, request scheduling section, resource scheduling section).

Bhatti did not specifically teach user-selected scheduling scheme.

27.   However, Bhatti disclosed that the request from the user provided the priority, the admission control based on the priority to admit the request, and the request scheduling based on these criteria to select the scheduling policy (scheme) (fig. 7; page 67, request classification section; page 68, admission control section, request scheduling section, resource scheduling section).

28.   It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Bhatti teaching that the request from the user provided the priority, the admission control based on the priority to admit the request, and the request scheduling based on these criteria to select the scheduling policy (scheme) is luring to the concept of user indirectly select the scheduling scheme. Therefore, one would be motivated to apply this system for supporting distinct performance levels for different classes of users and maintaining predictable

performance even when the server is subjected to a client request rate that is several

times greater than the server's maximum processing rate (Bhatti, abstract, lines 9-12).

Conclusion

29.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Rhee et al. (U.S. Patent No. 6341303) teaches method for scheduling a

resource according to a preconfigured plan.

Rhee et al. (U.S. Patent no. 6457008) teaches resource scheduling policies.

30.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jennifer N. To whose telephone number is (571) 272-

7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

31.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

32.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer N. To
Examiner
Art Unit 2195

MING-AI. L. N
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER